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ABSTRACT

The goal of the Ad Hoc Technical Committee for Vocational Agriculture in Indiana was to develop a model and recommendations that would result in improved student knowledge and skills for the present and future, address labor market needs, and promote program excellence at all levels of education. The committee developed recommendations for secondary, postsecondary, and adult agricultural education. Their accomplishments included (1) a mission statement that emphasizes the importance of both academic and vocational components of the program; (2) a list of common skills for education for the vocation of agriculture; (3) recommendations for curriculum and content at all levels of agricultural education in the areas of student organizations, summer programs, and improving the image of the programs; (4) recommendations for changes in teacher education and professional development--including ones concerning the exploration of changes at Purdue University; and (5) a discussion of the need for better and more easily available data on occupational trends and employment levels in the area of agriculture. (In this report, an overview of the present situation and a discussion of trends in the area are provided with each recommendation. The report also includes information on the current situation in Indiana agriculture, a brief summary of the history of agricultural education in the state, data on current student information and enrollments, and a 27-item reference list. Appendixes include definitions of terms used in the report, an outline for summer educational programs, and the list of common skills for the vocation of agriculture.) (KC)

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**Ad Hoc Technical Committee
for Vocational Agriculture**

FINAL REPORT

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INDIANA COMMISSION ON VOCATIONAL AND TECHNICAL EDUCATION
(formerly the State Board of Vocational and Technical Education)
325 West Washington Street
Indianapolis, IN 46204
(317) 232-1810

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EXECUTIVE SUMMARY
OF THE
FINAL REPORT
OF THE
AD HOC TECHNICAL COMMITTEE
FOR
VOCATIONAL AGRICULTURE

Indiana Commission on Vocational and Technical Education
325 West Washington Street
Indianapolis, Indiana 46204
(317) 232-1810

This report is the effort of a select group of Indiana agricultural educators and private sector representatives who were charged with examining the programs in Indiana vocational and technical agricultural education in order to advise on the development of a state-of-the-art model for Indiana. The report is a composite of their individual and collective effort. This report is to be utilized by and be a benefit to: policy makers, administrators, agricultural educators, parents, members of advisory committees and the industry of agriculture.

The goal of the Ad Hoc Technical Committee for Vocational Agriculture was to develop a model and recommendations which would result in improved student knowledge and skills for now and the future, address labor market needs, and promotion of program excellence at all levels of education.

RECOMMENDATIONS OF THE COMMITTEE:

The committee developed recommendations for secondary, post-secondary, and adult agricultural education. Their accomplishments included:

a Mission Statement: Education for the Vocation of Agriculture which emphasizes the importance of two components, one with academic emphasis and one with vocational emphasis and the importance of curricula developed on an educational continuum (pages 16 and 17 of the full report);

a list of common skills for education for the vocation of agriculture--the list includes problem-solving, interpersonal relations, decision-making, management, safety, career awareness, and technical skills (pages 18 and 19 of the full report);

recommendations for curriculum and content at all levels of agriculture education--secondary, postsecondary, and adult--in the areas of student organizations, summer programs, and improving the image of the programs (pages 20 to 34 of the full report);

recommendations for changes in teacher education and professional development--including ones concerning the exploration of changes at Purdue University (pages 36 to 41 of the full report);

and a discussion of the need for better and more easily available data on occupational trends and employment levels in the area of agriculture (pages 42 and 43 of the full report).

Recommendations to those interested in secondary agricultural education are found on pages 23 to 30 of the full report. The committee highly recommended that all future programs of vocational agriculture in Indiana be referred to as agricultural education programs. Along with this change, the committee recommended that the current five major program areas be collapsed into one: agricultural sciences and business. The current vocational agriculture programs should be updated by:

- (a) reflecting the current and anticipated status of the agricultural industry in Indiana;
- (b) substantially increasing the emphasis on nonproduction aspects of agriculture;
- (c) including more emphasis on economics, management and marketing;
- (d) emphasizing the science base of agriculture and the application of science and mathematics through instruction in agriculture; and
- (e) introducing subject matter concerning the international dimension of agriculture.

A total of thirty-seven (37) recommendations are made for the improvement of secondary agricultural education.

Adult agricultural education is described on pages 32

and 33 of the full report. The committee recommended the development of approaches for the delivery of adult agribusiness and young/adult farmer programs.

Postsecondary (less than baccalaureate level) agricultural education programs are offered in only a few Indiana colleges. The committee recommends that a special task force investigate where this level of education fits into the overall objectives of agricultural education in the state (pages 34 and 35 of the full report).

As the committee developed recommendations and sought answers to the many questions facing education in agriculture, one problem area continued to surface and created much discussion, but due to the nature of the problem, provided few solutions. This problem had to do with the preparation, in-service, and recruitment of teachers. The committee made recommendations which address this problem area on pages 38 to 41 of the full report.

An overview of the present situation and a discussion of trends in the area are provided with each recommendation. The report also includes information on the current situation in Indiana agriculture, a brief summary of the history of agricultural education in the state, and data on current student information and enrollments. The appendices include definitions of terms used in the report, an outline for summer educational programs, and the list of common skills for the vocation of agriculture.

The membership of the Agriculture Ad Hoc was approved as:

Business/Industry--six individuals
Job Incumbents-- three individuals

Vocational Teachers--three individuals
Vocational Teacher Educators--one individual
Students--one individual
Other--one representing Purdue University, School of
Agriculture, and one representing area vocational
directors and postsecondary technical education

with consultants from the Department of Education, Vocational
Education Specialist in Agribusiness, and from Purdue University,
including the project director of the Indiana Commission on
Vocational and Technical Education curriculum project.

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AD HOC TECHNICAL COMMITTEE FOR VOCATIONAL AGRICULTURE

PREFACE

This report is the effort of a select group of Indiana agricultural educators and private sector representatives who were charged with taking a look at the traditional programs in Indiana vocational and technical agricultural education. The report which follows is a composite of their individual and collective efforts. It is intended that this report will be utilized by and be a benefit to: policy makers, administrators, agricultural educators, parents, members of advisory committees and the industry of agriculture.

COMMITTEE AUTHORIZATION

In response to a perceived need for change in the vocational agriculture curriculum and the funding of a project to review the current curriculum, the Standing Technical Committee authorized the formation of the Ad Hoc Technical Committee for Vocational Agriculture (Agriculture Ad Hoc) at its December 16, 1986, meeting. The categories of membership and the individuals to serve on the committee were approved at the February 25, 1987, meeting. The minimum representation for every ad hoc technical committee shall be: two from trade and professional organizations and employers (business/industry); two from labor, if applicable to the occupational area, or one job incumbent; one representing vocational students in the occupational area to be addressed; one teacher from each of the applicable levels of vocational and technical education (secondary, postsecondary, adult); one repre-

senting vocational teacher educators; and one who will be the liaison from the Technical Committee for Curriculum Development and Review (Standing Technical Committee). (Ad Hoc Technical Committee Procedures, February 10, 1987; State Board of Vocational and Technical Education action on technical committees, September 3, 1985.) The membership of the Agriculture Ad Hoc was approved as:

- Business/Industry--six individuals
- Job Incumbents--originally three individuals, now two
- Vocational Teachers--three individuals
- Vocational Teacher Educators--one individual
- Students--one individual
- Other--one representing Purdue University, School of Agriculture, and one representing area vocational directors and postsecondary technical education

Consultants to the committee were the vocational education specialist in agriculture from the Indiana Department of Education, project director of the Indiana Commission on Vocational and Technical Education (ICVTE) agriculture curriculum project from Purdue University, and ICVTE staff.

The stated goal of the Ad Hoc Technical Committee for Vocational Agriculture and the Technical Committee for Curriculum Development and Review (Standing Technical Committee) is a stronger curriculum for vocational/technical education programs for use at the secondary, postsecondary, and adult levels that address labor market and individual student needs.

The Ad Hoc Technical Committee for Vocational Agriculture (Agriculture Ad Hoc) has four stated objectives. The first is to coordinate with the Standing Technical Committee development of an inventory of skills from available resources for use in defining state-of-the-art model curriculum for agriculture. The second

is to review availability of existing curriculum resources, that are formulated in a performance based structure, and can be adapted or adopted for use in vocational/technical programs addressing the areas of identified needs. The third is to assign the development or modification of existing performance-based vocational education curriculum materials through use of available resources for product development or revision, pilot testing, and final production. The final objective is to direct methods for dissemination of the materials through available resources and mechanisms.

A list of members is in the front of this document.

THE PRESENT SITUATION

AGRICULTURE IN INDIANA

Agriculture is of prime importance to Indiana. Indiana is 38th in size in the United States but ranks among the 10 leading states in agriculture and eighth in total dollars of exported agricultural products. The farmer's business is to produce food and fiber. In any society, the necessities of life--food, clothing, and shelter--must come first. Unlike some products of our economy, food is one product we cannot do without. Agriculture is one of Indiana's largest employers. Approximately one out of every five jobs in private enterprise store, transport, process, and merchandise the output of Indiana's farms.

Actual farmers comprise about 2 percent of today's Indiana population. A farmer feeds his/her family and approximately 70 to 80 other people. Large quantities of Indiana's food and fiber are exported. This helps our trade balance with foreign countries. For instance, two out of every five soybeans (40 percent) rolling out of an Indiana combine are sold to other countries.

Agriculture is important to every county in the state. Remember, it is important not only to the farm family that grows it, but also to the people who transport, process, and sell farm food and fiber products. Also, everyone is a consumer because we all like to eat.

The 1987 census indicated approximately 72,000 farms with a total of 16,200,000 acres of land. Additional

statistics include:

- 1st in egg-type chicks hatched
- 2nd in total eggs produced
- 2nd in total duck inventory
- 2nd in popcorn production
- 2nd in hogs produced
- 3rd in soybeans produced
- 3rd in tomatoes for processing
- 4th in peppermint production
- 4th in corn produced
- 7th in turkey production
- 12th in tobacco production
- 14th in milk production
- 18th in apple production
- 22nd in sheep production
- 27th in beef production

Indiana agriculture is a multibillion dollar business and is of utmost importance to the state economy.

However, the total agricultural sector of Indiana includes more than farm production. Other important components include farm services, input supplies, food processing, wood and paper product production, and food distribution. Employment in agriculture, including the various branches of agribusiness, was estimated to be about 355,000 in 1982, which was approximately 20 percent of Indiana's private sector employment of 1,789,000. Persons employed on Indiana's farms during the seasonal peak in October included about 80,000 family members and 30,000 hired workers. An estimated 245,000 additional people were employed in off-farm agricultural services, agricultural input industries, food manufacturing, and food distribution.

The size of the consumer market for food in Indiana in 1982 was estimated at \$7.4 billion. Approximately \$1 billion was expended for imported foods and fish and \$6.4 billion was spent by Indiana consumers for U.S. farm produced food. Of this

amount, about two-thirds was spent at retail for home consumption and the other one-third for food away from home.

Indiana is richly endowed with a broad range of high-quality natural resources and a favorable geographic location for agricultural production and agribusiness enterprises. The natural resources include productive soils and abundant available water, along with climatic conditions favorable to agricultural and forest crop production. The state's natural resources in concert with other qualities also provide numerous opportunities for outdoor recreation and for development of environmental amenities to be enjoyed by Indiana citizens and visitors from outside the state.

Indiana's natural resources are, in the main, lasting and renewable. However, in an age of modern technology with an accent on economic growth, pressures on these natural assets tend to increase. Deterioration can occur through soil erosion, water contamination, inappropriate land and water management, and lack of knowledge about harmful effects of equipment, chemicals, or waste disposal on natural resources, as well as on health and well-being of animals and people.

Maintaining and improving the natural resource base in Indiana is highly important. Issues related to water quality and optimum development and utilization of the state's water resources require increasing attention. Land use, conservation, environmental quality, and recreational use values of natural resources can greatly enhance Indiana's long-term future.

Indiana is in a favorable position to respond to future

growth opportunities. The state has a large, varied, and productive resource base that is well located in the heartland of the nation and within easy market access to many of the more densely populated areas of the United States. Indiana also is favored with alternative transport routes to overseas markets, where large volumes of the state's agricultural products are shipped.

Some major consumer demand trends are underway that favor an expanded emphasis by the state on processing and distribution. Underlying factors affecting these trends are changing consumer preferences associated with the aging of the population, the emphasis on health and nutrition, more meals away from home, smaller sized family units, and increasing desires for quality, variety, and diversity in the diet. The evolving demand patterns call for expansion of food processing generally and a strong focus on innovation and new product development.

Indiana is in a strong position to respond to the research and education challenges in food processing and related agribusiness activities. The universities in the state are among the best in the nation, and they are nationally recognized for programs in these areas. If Indiana has the policies and the economic and business environment favorable for future development of the various agriculturally related sectors, the state can more fully realize its high potential.

AGRICULTURAL EDUCATION IN INDIANA

Any review of past and present programs of vocational agricultural education cannot be measured in the accomplishments of one year, but must be interpreted in the light of accomplishments and changes that have been made in the accumulation of years. Vocational agriculture was established in 1917 by federal legislation. Its purpose was to train young men to become better farmers. Federal funds were appropriated to the state on a matching basis and were offered to local secondary schools to establish vocational agriculture departments.

Vocational agriculture educators soon realized it was not enough to just train young men to become farmers. The changing world needed young men trained as efficient tillers of the soil and as young leaders with the necessary knowledge and skills to fulfill the needs of leadership in a changing agriculture. As a result, the Future Farmers of America was established in 1928 and eventually chartered in 1950 by the federal government as an integral part of vocational agriculture programs for the purpose of developing competent and effective rural leadership.

As the years passed, it became obvious that agricultural education and the FFA needed to change to keep pace with the changing technology of an agricultural world. The federal Vocational Act of 1963 provided that programs of vocational agriculture will prepare all persons for all

occupations involving knowledge and skills of agricultural subjects and that instruction in vocational agriculture may be provided with the supervised occupational experience being obtained either on farms or in other kinds of agricultural businesses. The federal Vocational Amendment of 1968 strengthened the Act of 1963 to expand all of vocational education into new areas to serve people and new needs. FFA accepted young women as members in 1969. In the Vocational Education Amendment of 1968 and the current Carl D. Perkins Vocational Education Act of 1984, the federal emphasis has shifted to addressing the needs of special interest groups related to vocational education. This change in funds has brought immediate and far-reaching changes in the direction of program development in Indiana's agricultural education programs.

Proof of the effectiveness and the relevance of vocational agriculture programs and the FFA is all about us. Across the state, efficient farmers with vocational agriculture training make up the backbone of agriculture. Agribusiness employees, public servants, members of cooperatives, school boards, and banks have received their basic agricultural training in vocational agriculture. Leaders from all walks of life credit the FFA with giving them a real start in life's role of leadership.

Agricultural education is a unique program which incorporates components of career development, academics, and agricultural literacy. It serves a valuable role in our secondary schools--a role that general education cannot fill.

The program does so by providing a variety of experience-based opportunities that address all domains of learning. The secondary agricultural education program is a broad-based cluster program focusing on the industry of agriculture and serves students with a wide range of backgrounds, interests, and capabilities. The program incorporates many academic and scientific skills with the goal of increasing individual productivity. Educational activities that extend beyond the school day and year complement a four-year program sequenced to build on previous instruction. This community-based program is further complemented by available adult and postsecondary instruction in knowledge and skills in the context of the industry of agriculture with the goal of providing a bridge between the classroom and an agricultural career.

The vocational agriculture curriculum or program in agricultural education is designed to offer students at the secondary and postsecondary levels the opportunity to explore and prepare for agricultural occupations.

Types of specialized agricultural education programs are:

1. Agricultural Production - Livestock and plant production on commercial and part-time farms. Agricultural science, farm mechanics, and business management should be included in the curriculum for these students.
2. Agricultural Business - Principles and practices of processing, marketing, and service of such things as farm chemicals, feeds, seeds, fertilizers, and small equipment connected with these.
3. Agricultural Mechanics - Operating, marketing, and servicing of agricultural power, machinery, and related equipment. Assembly, adjustment, maintenance, and repair of machinery, structures, and convenience devices.
4. Ornamental Horticulture - Principles and processes concerned

with the production, management, sales, and services in greenhouses, nurseries, and garden stores. Turfgrass management and landscaping is also included.

5. Natural Resources - Principles and practices dealing with conservation and improvement of resources. Management of trees and establishment of recreational areas are included.

Any student in grades 9-12 may enroll in the local agricultural education program. All agricultural education classes are open to both sexes with the same effort made to recruit males and females.

Job opportunities for students range far beyond the traditional entry-level positions in farming to positions in agribusiness, horticulture, mechanics, natural resources, and forestry. Vocational agriculture may be delivered by the following programs: middle and/or comprehensive high schools, area vocational schools, postsecondary institutions, and adult education. At each level, training programs consist of three interrelated components:

- A. Classroom/laboratory instruction using the "problem-solving" technique.
- B. Supervised occupational experience in which each student gains "hands-on" experience outside the classroom.
- C. Leadership development through the FFA in high school, PAS (Postsecondary Agriculture Student) at the postsecondary institutions, and Young Farmers for adults currently employed in agriculture.

Agricultural education further emphasizes: (a) realistic learning experiences that have obvious applicability; (b) active, hands-on participation in the learning process; (c) continuous reinforcement of skills through qualitatively different experiences such as laboratory exercises, classroom discussions, and opportunities for entrepreneurship; (d) attention to the

psychomotor and affective domains of learning to complement the cognitive; (e) a problem oriented approach to knowledge that highlights the reasons for learning the information instead of just learning the information itself; (f) the interdependency of economic factors involving local, state, regional, and national activities.

The agricultural education programs in Indiana have provided a positive learning environment for many years. Secondary agricultural education has allowed students to acquire the basic skills needed for success in the work world. The success of agricultural education programs in Indiana has been because of the accomplishments of the students involved. Postsecondary technical education in agriculture provides an opportunity to students for supplementing existing skills, preparing students for employment, and retraining students in an agricultural field. Adult agricultural education programs have provided a valuable service for professional skill enhancement.

There is a direct relationship between the public image and the perception of the agriculture program and its success in the community. This success is influenced by the understanding of the agriculture program by counselors, parents, administrators, students, members of school boards, trustees of postsecondary institutions, business, industry, and the public. The image of agricultural education needs to reflect the changes and needs in modern agriculture and society. The definitions found in Appendix A of some selected terms will help identify the extent of changes being made in agricultural education.

The negative aspects of the agricultural economy have reduced student interest in all levels of agricultural education. The perception that vocational and technical agriculture leads only to farming is reducing student interest.

Another perception that could have a negative impact in student interest in agricultural education is related to public opinions about vocational and technical education. Many differing perceptions of vocational and technical education exist and, unfortunately, many of these perceptions are negative.

STUDENT INFORMATION

DEMOGRAPHICS:

Diversity within the youth population will increase through the year 2000. There will be proportionately fewer young people. A higher number and proportion of blacks and other ethnic minorities, and growing urban and rural disadvantaged populations comprising all races and ethnic groups will exist. It appears that the white population will increase about 3 percent, while the nonwhite population may increase some 25 percent.

The population of Indiana grew .2 percent from 1980 to 1986. The state experienced a redistribution of population. The counties that had the largest percentage gains were Hamilton, Lagrange, and Warrick; those with the largest losses were Lake, Delaware, Henry, Jay, Newton, and Randolph.

These trends present an urgent and complex challenge to educational program planning. The demographic information suggests further examination of the issues of teacher training and recruitment, curriculum development, program planning and

accessibility, and student recruitment are critical, both at the state and local levels.

SECONDARY AGRICULTURAL EDUCATION ENROLLMENTS:

According to 1985-1986 data, secondary school enrollment (grades 7 through 12) was approximately 460,212. During 1986-1987, there were approximately 15,010 vocational agriculture students which was, 15 percent of the total vocational student population enrolled in and served by the 459 programs offered in the ninth through twelfth grade levels in Indiana. There are 220 programs for general agriculture and 239 vocational agriculture programs.

The 239 vocational programs have 287 secondary vocational agriculture instructors. There are 35 multi-teacher programs, and 10 part-time instructors in the state. The programs in Indiana are based on a two-year core curriculum with the remaining two years of instructional emphasis focusing on community needs. Future Farmers of America (FFA), and the Supervised Occupational Experience (SOE) programs are integral components in most secondary agriculture programs.

Fifty-seven percent of Indiana's vocational agriculture students are members of the FFA and participate in a variety of activities offered by the program at the local, district, state, and national levels. There were 206 chapters in 1986-87.

POSTSECONDARY AGRICULTURAL EDUCATION ENROLLMENTS

There were 219 students enrolled in postsecondary technical agricultural education in 1986-87, .3 percent of the total post-secondary technical enrollment, in nine programs. These programs

are in two-year postsecondary institutions.

The backgrounds of students enrolled in the secondary and postsecondary programs are broad and varied. A majority of the students enrolled in these programs do not live on commercial farms; they reside on small acreages or within the residential areas of Indiana's towns and cities.

ADULT EDUCATION ENROLLMENTS:

In 1986-87, there were 2,849 students, 10 percent of the total adult vocational education enrollment, enrolled in 186 adult vocational agricultural education programs. There are 157 teachers in the 186 programs, the majority in one-instructor programs.

There were 866 farm families enrolled in the Young Farmers Association (YFA), the adult vocational farm organization, in 1986-87. The average age of members was 34. Since 1985, there has been a net decrease of 131 families in YFA.

RECOMMENDATIONS OF THE COMMITTEE

Based on the previous information and numerous discussions among technical committee members, the following summations and recommendations are being made by the Agriculture Ad Hoc Committee concerning Agricultural Education in Indiana.

MISSION STATEMENT

EDUCATION FOR THE VOCATION OF AGRICULTURE

Agriculture is broadly understood to encompass the entire food, fiber, and natural resource system, and the professional career opportunities in business, education, communication, engineering, forestry and natural resources, production, and science that support the food and agriculture system.

Agricultural education programs must be developed and conducted to accomplish their integration into the total education system. Agricultural education is composed of two components:

- 1) a component with academic emphasis, which is integrated into the academic programs in the secondary school system, and which is articulated with baccalaureate degree programs in college;
- 2) a component with vocational emphasis, which focuses on the skills and technical content required for employment in agriculture, and which is articulated with continuing adult education.

Agricultural education curricula must be developed in an educational continuum. They should begin at the primary level where they are integrated into career motivation, orientation, and exploration programs. They should continue through the secondary level where they will provide: basic knowledge and

skills of the food, fiber, and natural resource system; and of the science, technology, and economic base upon which the system rests; and offer either preparation for additional education in college, or opportunity for development of skills for occupational preparation. Linkage with college degree programs in agriculture should be a principal thrust of the secondary school curriculum. Likewise, opportunity at the adult level for occupational specialization with a vocational emphasis, and long-term career development, should be provided.

COMMON SKILLS
FOR
EDUCATION FOR THE VOCATION OF AGRICULTURE

All educational programs in the secondary schools will have foundation and area specific proficiencies, which are mandated by state law and the State Board of Education. The proficiencies will be used to provide a guide for student outcomes. The foundation proficiencies for vocational education were developed in 1987 and the area specific proficiencies will be developed in 1988-89.

Foundation Proficiencies for Vocational Agriculture Education

Students in Indiana schools will be provided learning experiences in vocational/technical education, which will allow them to:

- assess and develop vocational interests and abilities in preparation for employment and to develop a foundation for continued learning,

- develop marketable job skills that are both specific and transferable,

- enhance employment potential through the development of positive work habits and attitudes,

- apply and reinforce basic skills in mathematics, science and communication,

- develop effective decision-making and problem-solving skills,

- and acquire an understanding and appreciation of the impact of technology and global culture upon the workplace.

The Agriculture Ad Hoc Technical Committee supports the foundation proficiencies and encourages their use. The committee members also encourage all vocational agriculture educators to become actively involved in the proficiency development process, both for the area specific and all vocational education proficiencies.

Agriculture Common Skills

The Agriculture Committee developed a set of common skills that are important for all graduates of secondary, postsecondary, and adult programs. These skills support the foundation proficiencies and are basic for either employment or further education. The skills are listed in Appendix C and include problem-solving, interpersonal, decision-making, management, safety, career awareness/job seeking skills, and technical skills.

CURRICULUM AND CONTENT

OVERVIEW OF SECONDARY VOCATIONAL AGRICULTURE PROGRAMS IN INDIANA:

The curriculums of the vocational agriculture programs currently operating in Indiana are unique to the individual programs. Most vocational agriculture programs are striving to meet the needs of the communities that they serve. The instructors implementing these programs are certified to teach one or more of five areas: agricultural production, agricultural business, agricultural mechanics, ornamental horticulture, and natural resources. Because fewer vocational agriculture students are coming from actual farm backgrounds, there is an increasing need for emphasis on the technical content of the four certification areas other than agricultural production. Rapid advancements of agricultural technology in each of these five areas require instructors to continually upgrade curriculum content in order to focus on the skills and technical content required for employment in agriculture. The numerous responsibilities of the instructors of a secondary vocational agricultural education program may limit their effectiveness in determining what technical skills and content should be a part of their curriculums in order to prepare their students for entry-level employment in agriculture.

The majority of the programs in the state offer a combination of production agriculture and agricultural mechanics. In recent years, more attention has been given to agribusiness management instruction and other innovative courses that seem to attract students to the program. The use of the computer as a

teaching tool has shown a marked increase.

FFA is an essential and integral element of vocational agriculture programs in the state, as well as a vital intra-curricular learning component of a vocational agriculture program. It is an instructional strategy used to develop leadership, community awareness and responsibility, cooperative work ethic, and is a vehicle for positive competitive interaction in the personal growth of the individual FFA member.

Because of cutbacks in funding and declining enrollments, some local school corporations have elected to reduce the agricultural education program from 12 months to 10 or 11 months, thus reducing their effectiveness. Summer programs currently are used for professional instructor improvement, preparation of curriculum materials, facility maintenance and organization, assistance at county fairs, Supervised Occupational Experience Program (SOEP) visits, FFA activities, etc. (See Appendix B for a more complete listing.)

It should be noted that in the past 15 years the only funded curriculum project for the secondary vocational agriculture programs in Indiana occurred in 1976. The result was the development of a Core I and Core II curriculum. These two year-long core curriculums were used in teaching the first and second year vocational agriculture students. Each program was on its own as to what was taught during the final two years of vocational agriculture enrollment. For several years these two curriculums provided a dutiful service; however, they have lost their usefulness as vocational agriculture programs seek more innovative and relevant curriculum areas.

Indiana does not have an agricultural education curriculum materials service like its two neighboring states, Ohio and Illinois. Instructional materials are purchased, borrowed, etc. from other teachers, other states, or Vocational Education Services at Bloomington. A wide range of courses both year-long and semester long in length are being taught throughout the state. Similar course titles may be offered in the northern, central, and southern parts of the state, but their contents may vary greatly depending on the locale (ex. soils, livestock production, etc.).

TRENDS:

Rapid changes in American agriculture are bringing changes to agricultural education programs. Agricultural educators at all levels are faced with the challenge of designing and conducting programs flexible enough to keep up with this rapid level of change.

Throughout the country there is a movement to reform existing vocational agriculture curricula and program standards. Proposals and testimony to the national study committee on agricultural education for the National Academy of Sciences have called for an infusion of newly developed agricultural technologies into agricultural education at all levels. This study should be available in late 1988.

Several states, (i.e., Iowa, Missouri, Texas, Michigan, Ohio, and Illinois) have adopted long-term (5 years) objectives to plan, design, implement, and evaluate agricultural education in secondary and postsecondary schools. Iowa and Texas,

along with changing their curriculum, have changed their program names at the secondary level from Vocational Agriculture to Agricultural Science and Technology.

Advisory groups have recognized and are recommending to their individual states that vocational agriculture programs must move from narrow, production agriculture emphasis to a more contemporary curriculum that prepares students for diverse careers in the agriculture industry. These new programs will better prepare students for everchanging employment opportunities, especially in the area of science and high technology careers in agriculture. These new programs will enhance the image of agriculture by portraying to students that agriculture includes many careers that are business and science oriented.

RECOMMENDATIONS FOR INDIANA'S SECONDARY AGRICULTURAL EDUCATION CURRICULUM

1. Agriculture is much broader than the term vocational agriculture implies; thus it is highly recommended that all previous and future programs of vocational agriculture in Indiana be referred to as agricultural education programs. The following recommendations reflect the need for this change.
2. The five major program areas, agricultural production, agricultural business, agricultural mechanics, ornamental horticulture, and natural resources, under the current program of vocational agriculture would be reduced to only one: agricultural sciences and business.

3. The current vocational agriculture program should be revised and updated (a) to reflect the anticipated status of the agricultural industry in Indiana; (b) to substantially increase emphasis on nonproduction aspects of agriculture; (c) to include more emphasis on economics, management, and marketing; (d) to emphasize the scientific base of agriculture and the application of science and mathematics through instruction in agriculture; and (e) to introduce subject matter concerning the international dimension of agriculture.
4. New courses at the secondary school level, both vocational and non-vocational courses, should be developed in agribusiness, agricultural science, college preparatory agriculture, and other appropriate areas. Courses of varying lengths (year, semester, or quarter) should be considered. The course content should be generic to all regions of the state.
5. All students should be knowledgeable about agriculture (agriculturally literate). Instruction about agriculture should be integrated into courses, other than vocational agriculture, currently being taught in grades K through 12. "Agriculture Awareness," curriculum materials developed by the Indiana Institute of Agriculture, Food and Nutrition, and currently being provided to fourth grade teachers for use in the Indiana history unit is one such program that should be expanded and examined as a model.

6. Clientele who receive agricultural instruction should potentially include all students in grades K through 12 in addition to persons who are anticipating or expect to be engaged occupationally in the agricultural industry. Expanded purposes for instruction in and about agriculture lead to new and different clientele to be served. Agricultural instruction should be provided to students of all ability levels, all racial and ethnic groups, and all levels of socioeconomic status.
7. Secondary and postsecondary educators should collaborate to improve curriculum and student skills in the areas of science, math, economics, business administration, and communication through innovative approaches involving state department of education personnel, local school officials, subject-specific educators, student organizations, and local advisory committees. Basic high school biology, chemistry, academic mathematics, and economics courses are essential for students planning careers in agriculture. Appropriate academic credit for science, math, economics, business administration, and communications should be considered by each school corporation to secondary students for new courses, with a statewide curriculum content, which are developed for the agricultural education program to fulfill existing graduation requirements. Exploration of the possibility for such credit should be collaborated by vocational and academic teachers and administrators.
8. Agricultural curriculum development and revision in

vocational and non-vocational courses should be accompanied by revision in the purposes, programs, and activities of the FFA (Future Farmers of America) and SOEP (Supervised Occupational Experience Program). A basic question that currently is being addressed at both the state and national level: Should students enrolled in non-vocational courses in agriculture participate in the SOEP and a students' organization as an integral part of the curriculum? The response to that question sets the bounds for the nature and magnitude of the change in FFA and SOEP programs and activities that must be considered. The answers to that question are currently being debated by the National FFA. Also, the idea of Supervised Agricultural Experience Programs (SAEP) is being explored by many national agricultural educator groups.

9. A set of common skills or core competencies should be included in all programs (see Appendix C). These include, but are not limited to job-seeking skills, positive ethics, interpersonal relations, communication skills, problem-solving, decision-making, and critical thinking.
10. Instructional programs in agriculture should use modern technology (computers, communications, etc.) in instructional delivery.
11. To facilitate reform of current programs and the development of new curriculum offerings, a systemized plan should be developed to determine new curriculum offerings and the removal or revision of existing curriculum.
12. Technical curriculum outlines from neighboring states should

be incorporated into new and revised curriculum for Indiana.

13. Each high school should conduct an instructional program in which each student has access to a minimum of two class periods each semester for elective courses. ↓
14. Local secondary agricultural education programs need to develop a comprehensive instructional delivery plan which may include the following options:
 - a. Semester based courses with specific emphasis in a subject matter area.
 - b. Multi-year programs offered in specific subject matter areas. In this case, students could receive specialized instruction in one facet of the agricultural education industry. More than one option would need to be offered. In addition to programs in agricultural sciences and business, multiple years of instruction could be offered specifically in agricultural mechanics, animal science, forestry, horticulture, or agribusiness management. For programs with more than one instructor, each could specialize in a specific subject matter area.
 - c. A variation to Alternative b could consist of an agricultural sciences and business program for the first year and then specialized instruction for the remaining 3 years.
 - d. Units of instruction may be offered in alternate years. This option may be beneficial to programs with low enrollments.

15. Students should be allowed open entry/open exit in agricultural education programs.

RECOMMENDATIONS FOR YOUTH ORGANIZATION (FFA):

1. FFA should continue to be a vehicle for personal growth in areas of leadership, community awareness and responsibility, cooperative work ethic, and positive competitive interaction.
2. FFA should continue to be used as an effective recruitment tool for agricultural education programs.
3. FFA activities should provide positive public relations and recognize students in all areas of award programs.
4. FFA should emphasize the applied learning concept.
5. FFA should continue to encourage participation in relevant local, district, state, and national activities and contests.
6. FFA should involve community resource persons--parents, alumni, etc.--whenever practical.
7. Each FFA chapter should have a comprehensive plan of activities and objectives.

RECOMMENDATIONS FOR SUMMER PROGRAMS:

1. Agricultural education instructors should be employed for 12 months.
2. Students meeting established criteria should be granted high school credit for completion of a supervised occupational experience or supervised agricultural experience program for the summer months.
 - a. Students enrolled in summer SOE/SAE programs should have the opportunity to develop skills in the areas of their interest.

- b. Supervision of these programs is to be provided by the agricultural education instructor.
 - c. Definite goals and learning objectives shall be established by the student, agricultural instructor, parents, and cooperating agribusiness employers.
 - d. An agricultural education instructor, in cooperation with parents and/or cooperating employers, shall monitor and record the progress of the student toward objectives.
 - e. Individualized and group instruction shall take place on farms, in agribusiness firms, in group meetings, on tours, and during field days.
 - f. Guidelines for credit should be established by the local school corporation.
- 3. Agricultural education instructors should teach those courses that best utilize those resources only available and appropriate during the summer months.
 - 4. Agricultural education instructors should conduct leadership training for students and supervise FFA activities.
 - 5. Instructors should attend educational courses, field days, conferences, and other inservice activities to keep pace with new technology.
 - 6. Instructors should supervise student participation in county and state fairs.
 - 7. Agricultural education instructors should develop comprehensive summer program plans, including the scope and sequence of individual student summer program plans.

8. Agricultural education instructors should cooperate with agricultural agencies, industries, and businesses in planning summer educational programs.

RECOMMENDATIONS FOR IMPROVING SECONDARY AGRICULTURAL EDUCATION'S

IMAGE:

1. A strong public relations program must be developed to enhance and improve the image of agricultural education at the state and local levels.
2. A recruitment program should be developed and implemented for all program levels in agricultural education.
3. The educational system and community should be informed of the potential contributions of agricultural education to the total education of the student.
4. Efforts should be made to inform students, community and school personnel, especially counselors, that agriculture has many career opportunities that require individuals with a diversity of skills and educational backgrounds.
5. Identify means of enhancing the image of a career in agriculture.
6. Provide public relations resources that can be used by local agricultural education instructors in promoting agriculture and agricultural education.
7. Develop opportunities to gain an audience statewide with school administrators and counselors to develop a better understanding of agricultural education programs and their benefits.

OVERVIEW OF YOUNG/ADULT FARMER AND AGRIBUSINESS EDUCATION:

The purpose of the young/adult farmer and agribusiness education program in Indiana is to provide quality education on a continuing basis beyond secondary (9-12) through adult as a part of the total program of public education in agricultural education. The program is for those who are preparing for employment and those who are presently employed in agricultural occupations at technical or vocational levels. The continuation of knowledge and performance skills required for successful achievement and for advancement in agricultural occupations from secondary through postsecondary constitute the central focus of the program.

Methods of instruction involve classroom, laboratory and/or shop, and observation and participation in the actual application and abilities being taught. Classes are usually held in the existing agricultural education facilities.

All approved young farmer programs are encouraged to maintain and operate a local young farmer chapter which will be kept in good standing with the Indiana Young Farmer/Agribusiness Association.

TRENDS:

The current crisis on farms and for farm families in Indiana, due to the general farm commodity/market/land value situations, has brought the concerns for farms, farmers, and the agribusiness situation into immediate focus. In addition, there has been an identified shortage of persons prepared to fill technical and professional positions that require backgrounds (majors) in agriculture.

The Indiana Adult Farm Business Management Program (AFBMP) began operation in 1984 with the purpose of assisting Indiana farmers with their accounting and financial management skills. Funded through grants from the Indiana State Board of Vocational and Technical Education, two sites were chosen to develop a quality adult educational opportunity using large-group (classroom), small-group, and individual on-farm instructional methods. Establishing a formal accounting system and thorough analysis of the records are vital parts of the program. Combining these various instructional techniques enabled AFBMP enrollees to improve the management, organizational, and operational efficiency of their farms.

The improved management skills of the participating farmers have benefited, not only the farmer, but the local community as well in terms of increased spending.

The long-term benefits of a program like the Adult Farm Management Program can perhaps best be seen in the numbers of farmers who survive and in the improved quality of their business operations. These results, however, might not surface for several years while decision makers in education and government need more immediate information on which to make decisions.

RECOMMENDATIONS FOR YOUNG/ADULT FARMER AND AGRIBUSINESS EDUCATION

1. Approaches for the delivery of the Adult Farm Management Program needs to be developed. Options include local agricultural education programs with full-time adult teachers, part-time teachers, and those with no adult teachers. The mode of operation and funding needs to be

developed.

2. Each local education agency (LEA) seeking program approval in agricultural education should insure that if it operates an approved secondary program (which has an approved teacher and appropriate facilities and equipment) with a teacher on a summer educational program contract, it should maintain and operate a local adult and/or young farmer educational program in accordance with the provisions of the DOE/ICVTE Agricultural Education Program Area.
3. Leadership for instituting and evaluating the young/adult farmer and agribusiness program should come from the administrative levels of the School of Agriculture and the State Department of Education.
4. The implementation of the program should involve agricultural extension personnel, agricultural education instructors, university faculty and staff, and state personnel.

OVERVIEW OF POSTSECONDARY/TECHNICAL AGRICULTURAL EDUCATION

PROGRAMS:

Postsecondary/technical agricultural education (less than baccalaureate level) programs are offered in only a few Indiana colleges. Clientele served by postsecondary agricultural education include, but are not limited to, the following: those wishing to supplement existing skills, those preparing for employment, those interested in agriculture as an avocation, transfer students, persons retraining in an agricultural field, and persons upgrading current skills.

Programs should provide training and education necessary to meet the increasing technological demands of agriculture-related industry while building upon competencies obtained from secondary education or from experience. The primary program area offered at the postsecondary level in Indiana is agricultural mechanics. There does not appear to be formal articulation between these postsecondary programs, secondary agricultural education programs, and higher education.

TRENDS:

As noted earlier the enrollment in agricultural education programs at the postsecondary level is quite low. The fact that enrollments are low and there is limited articulation between the various educational levels leaves this committee with the following questions:

Who should be served by postsecondary/technical agricultural education?

What is the mission and purpose of postsecondary education?

Do postsecondary instructors need to be trained differently from secondary or adult teachers?

Should postsecondary agricultural education be considered a part of the total agricultural education program?

How should the postsecondary programs be articulated with four-year institutions?

With low enrollments and few programs, should the postsecondary agricultural education program be eliminated?

RECOMMENDATIONS FOR POSTSECONDARY/TECHNICAL AGRICULTURAL
EDUCATION PROGRAMS:

1. A special task force should be developed to investigate where postsecondary agricultural education fits into the overall objectives of agricultural education in the state.

OVERVIEW OF AGRICULTURAL TEACHER EDUCATION AT PURDUE UNIVERSITY:

Since Purdue serves as Indiana's only institution training teachers of agricultural education, the need for strong two-way communication between secondary agricultural education instructors and the university is particularly important. Agricultural education at Purdue serves four functions through a committed staff of two 10-month faculty and one 10-month staff member who serves as academic advisor. These four functions are: 1) preparation of superior teachers of agricultural education for Indiana schools; 2) scholarship, research, and dissemination of knowledge; 3) inservice training of teachers; and finally, 4) the provision of a quality graduate program. These four functions do not preclude the preparation of individuals who wish to enter other agricultural pursuits.

In addition to these four main functions, the Agricultural Education Division performs other activities such as: placement and follow-up, guidance, recruitment, maintenance of resource materials, committee participation in two schools, and many others. Professional activities and liaison with other educational groups in the state and nation are just one example. All of these functions and activities contribute to the development of Indiana agriculture and its most important resource, people.

TRENDS:

The majority of agricultural teacher education programs are located in Schools/Colleges of Agriculture. In the past three

years, two institutions, Michigan State University and the University of Illinois, have moved their agricultural teacher education programs into their respective Schools of Agriculture.

In the past 10 years the agricultural education faculty at Purdue has decreased from four FTE, 12-month faculty positions to the current two FTE, 10-month faculty positions and one 10-month staff position. Even though there has been a significant decrease in number of faculty and length of contract, faculty and staff responsibilities have not changed and undergraduate enrollments have remained steady. The results of these cutbacks in contract length and faculty positions, coupled with a lack of agricultural education leadership, has caused confusion, discouragement, and disenchantment between teachers in the field, state agricultural education personnel, and the university.

As the committee developed recommendations and sought answers to the many questions facing education in agriculture, one problem area continued to surface and created much discussion, but due to the nature of the problem, provided few solutions. A section of people in the School of Humanities, Social Science, and Education is charged with training and developing agricultural education teachers and they do not get the support from their administration to fully accomplish their task. The question is, could this activity be more successfully accomplished under the administration of another school? That school, of course, would be the School of Agriculture. The mission of agricultural education is more clearly understood in the School of Agriculture. Also, the faculty in agricultural

education would be in more direct contact with the agricultural faculty and agricultural students that are more likely to select agricultural education as an option.

Indiana agricultural education teachers have been trained in traditional preservice agricultural education programs.

Agriculture, like other high technology areas, is changing so rapidly that it is essential to continually update the teacher on new information through a variety of professional development activities. A major portion of the jobs in the agriculture sector are in agribusiness and horticulture. As agriculture and teacher certification requirements change, the technical skills needed by beginning agricultural education teachers must also. The present preservice program should be strengthened to give teachers adequate training in modernized programs.

RECOMMENDATIONS FOR AGRICULTURAL TEACHER EDUCATION AT PURDUE:

1. Preservice and inservice teacher education programs must be revised and updated in accordance with the redirection and revision in agricultural education that will be implemented. Personnel in agricultural education at Purdue University should be involved actively and significantly in the study and discussion of the future of agricultural education and particularly on the preparation and continuing professional and technical education of teachers of agriculture.
2. Professional improvement opportunities currently exist in order to continue to inform agricultural educators about changes in the field. The need for improvement activities will remain critical as the pace of change

in technology and the agricultural economy continues to increase. Since much of the agricultural education teacher's professional improvement opportunities take place during the summer months, the agricultural education faculty should be available on a year-round basis by means of fiscal year employment rather than academic year employment.

3. The Head of the Department of Education should appoint an agricultural education faculty member to serve as coordinator/director of the agricultural education program at Purdue.
4. The Dean of Humanities, Social Science and Education and the Dean of the School of Agriculture should discuss the possibilities of joint appointments for agricultural education faculty members and the addition of FTE faculty.
5. Coordinated activities should be conducted to assure that agricultural education programs at elementary, secondary, and postsecondary levels, plus the 4-H program of the Cooperative Extension Service, serve as a talent identification and feeder system for higher education in agriculture.
6. Develop a public information program that adequately informs prospective students, parents, teachers, guidance counselors, school administrators, and policy makers regarding higher educational needs and opportunities in agriculture.
7. The agricultural education student organization, IVATA-Purdue, should be integrated into the instructional program.

8. Incentive programs, such as merit scholarships or award programs, should be made available to encourage more students to pursue a teaching career in agriculture.
9. Develop and expand linkages with industry and extension education for more inservice education.
10. Develop alternative delivery systems utilizing "key" teachers, industry representatives, and university level personnel.
11. Methods of delivery should emphasize noncredit workshops and one- and two-hour credit courses in relation to the number of three-hour credit courses.
12. Provide more funding from the state of Indiana for inservice staffing and support services for teachers.
13. Teachers and teacher educators in agriculture should pursue internships and sabbaticals.
14. Teacher educators in agriculture and state agricultural education supervisors should periodically return to the secondary classroom, as teachers.
15. All teachers need training in the area of interpersonal relationships, communication, use of the media, and public relations to better represent agriculture and their program.
16. Teachers need to be trained to better utilize community, industry, alumni, and advisory groups.
17. Some professional education courses may need to be delayed until the graduate program or until the teacher is employed.
18. Recruit more and better potential agricultural education majors.

19. Agricultural education teachers must assume a more active role in determining which inservice courses are offered.
20. A state-funded undergraduate summer internship program should be established to provide opportunities for prospective teachers to gain valuable educational experience at the secondary, postsecondary, and adult level with regular supervision and follow-up provided by the agriculture teacher education staff.

EMPLOYMENT DATA

OVERVIEW OF THE PRESENT SITUATION:

Data on occupational trends in agriculture are not easily available in Indiana. Specifically, the method of classifying occupational data used by the United States Department of Labor significantly underreports openings and trends, and supports erroneous impressions that agriculture only has openings in production and mechanical careers. Occupations and employers are classified as business, science, and other rather than agribusiness, agriscience, etc. The lack of data also contributes to difficulties in planning educational programs. Changes to existing programs and curricula also are hampered by the lack of usable data. There also is no systematic method to gather data on current or anticipated local, regional, or state labor market needs.

TRENDS:

Other midwestern states also have been confronted with the problems of accurate and timely data for the field of agriculture. Several have established regional systems that attempt to develop profiles of agribusiness and agriculture-related employers in order to clarify labor market needs and trends. A national study on baccalaureate careers in agriculture indicates that careers in agriculture are found in seven major occupational areas: technicians and support staff, scientists, engineers, and related specialists; managers and

financial specialists; marketing, merchandising, and sales representatives; education, communication, and information specialists; social service professionals; and agricultural production specialists.

RECOMMENDATIONS FOR THE FUTURE:

1. The development of a better data gathering system for agriculture labor market information should be explored. This data system should develop profiles of agribusiness employers, including educational requirements on a regional basis. The system also should be easily accessible to educational, training, and employment planners and agencies.
2. Curriculum planning at the state and local levels should include population and labor market demographics as one of the foundations for change or modification.
3. Population and labor market demographics should be one of the foundations for development of documented competencies or skill proficiencies for all agricultural education graduates.
4. The use of local advisory committees for program and curriculum planning should be encouraged in secondary, postsecondary, and adult agricultural education programs. The local advisory committees can provide excellent information on local labor market and training needs.

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APPENDIX A

DEFINITIONS

Agriculture	The broad industry engaged in the production of plants and animals for food and fiber, the provision of agricultural supplies and services, and the processing, marketing, and distribution of agricultural products.
Agribusiness	An enterprise that involves providing supplies and/or services needed by those engaged in agricultural production and/or the processing, marketing, and distribution of the agricultural materials and consumer products.
Agricultural Education	Related courses or units of subject matter which are organized for carrying on academic and experiential experiences concerned with preparation for or upgrading in occupations requiring knowledge and skills in agricultural subjects. The functions of agricultural production, agricultural supplies, agricultural mechanization, agricultural products (processing), ornamental horticulture, forestry, agricultural resources, and the services related thereto, are emphasized in the instruction designed to provide opportunities for pupils to prepare for or improve their competencies in agricultural occupations or further education in agricultural science. An agricultural occupation may include one or any combination of these functions. Also refers to the curriculum, in a college or university, structured primarily to prepare and assist professional educators who teach agriculture.
Adult Vocational Education	Organized instruction for persons beyond the age of compulsory school attendance to prepare them for employment or to increase knowledge and skills required in agricultural occupations. An adult class is characterized by flexible scheduling, various administrative patterns, and content and objectives related specifically to needs of the adults.
Curriculum	A guide to the student in learning and the teacher in teaching; a pattern or blueprint showing a detailed plan for an educational experience. The curriculum is sometimes used to describe the total academic and experiential offering of an institution as well as a specific course of study for agricultural education.

Curriculum Materials	Educational materials concerned with either basic or supplemental instruction and designed according to stated goals and objectives. The materials may range from the abstract and theoretical to those that deal with practical real-life experiences.
High Technology	State-of-the-art computer, microelectronic, hydraulic, pneumatic, laser, nuclear, chemical, telecommunication, and other technologies being used to enhance productivity in agriculture and similar economic activity.
Inservice Training	An educational process that includes the policies, plans, and procedures in which professionally related needs and tasks serve as the basis for the educational program of agricultural teachers. The program may focus on curriculum; improvement of instruction; technological changes; development of new techniques, materials, or devices; and attainment of identified objectives. The program(s) should serve both the educational development of the teacher and the advancement of agricultural education.
Postsecondary Education	Agricultural education conducted for youth or adults who have completed or left secondary school and who are enrolled in an organized program of study in preparation for entering or progressing in the agriculture/agribusiness market. Normally education beyond the 12th grade provided in community colleges and/or vocational technical institutions offering less than a baccalaureate degree.
Retraining Program	One or more courses of instruction that updates agriculture/agribusiness knowledge, skills, and techniques of their occupations in order to meet new demands of business and industry or training for new occupations.
Teacher Certification	Granted after the minimum academic, occupational, and other standards established by the State Department of Education or other designated agencies are met by those agricultural educators who wish to teach full-time or part-time in the school system.
Teacher Educator	A professional person in the field of agricultural education responsible for the preparation and inservice education of teachers. Assists teachers or prospective teachers to secure the professional knowledge, ability, understanding, and appreciation that will enable them to help students learn, meet certification requirements, or advance in teaching positions.

Vocational Agriculture	The curriculum or program in agricultural education designed to offer students at the secondary and postsecondary levels the opportunity to explore and prepare for agricultural occupations.
Vocational Curriculum	The organized sequence of experiences and offerings planned for the purpose of facilitating agricultural occupational choices; preparing for or advancing in employment; or making adequate preparations for change in employment as technology, economics, or societal conditions alter the nature and availability of employment.
Vocational Education	Organized educational programs which are directly related to the preparation of individuals in paid or unpaid employment in agriculture and other occupations, requiring other than a baccalaureate or advanced degree and vocational student organization activities as an integral part of the program.

APPENDIX B
SUMMER EDUCATIONAL PROGRAMS

The employment of instructors in agricultural education is the responsibility of the local board of education. The local board, through the local administrators and agribusiness education instructor, is responsible for the following summer educational program.

1. Supervising students' farming programs or work experience programs.
2. Providing individual instruction for students and young farmers and/or adult farmers.
3. Keeping departmental records pertaining to: students' farming program, work experience, youth leadership activities, and needed inventories.
4. Prepare and discuss with local school administration an annual report containing a summary of summer activities and accomplishments and goals to achieve for the coming year.
5. Visitation and cooperation with other agriculture agencies in the community.
6. Planning and supervising the local FFA, and/or young farmer activities.
7. Participate in professional improvement by attending the annual summer conference and/or educational workshop(s).
8. Preparing and submitting reports to the local board and the State Office of Agricultural Education.
9. Conduct community surveys and arrange for training stations when needed.
10. Visit homes of new or prospective students.
11. Arranging and reconditioning classroom and shop equipment.
12. Planning instruction for prospective students.
11. Arranging and reconditioning classroom and shop equipment.
12. Planning instruction for day students, young farmers, and/or adults; arrangements for resource people, demonstrations, and field trips.

13. Providing an organized placement service for local program participants.
14. Providing an organized follow-up procedure in accordance with federal regulations.
15. Conduct one or more local advisory committee meeting(s) to evaluate and plan the local program.

APPENDIX C

COMMON SKILLS FOR EDUCATION FOR THE VOCATION OF AGRICULTURE

Agriculture Common Skills

The Agriculture Committee developed a set of common skills which are important for all graduates of secondary, postsecondary, and adult programs. These skills support the foundation proficiencies and are basic for either employment or further education.

Common Skills:

Ranked:

1. Problem-solving skills

- To identify the existence of a problem, given a specific set of facts
- To function effectively in the face of ambiguity
- To ask appropriate questions to identify or verify the existence of a problem
- To enumerate the possible causes of a problem
- To formulate alternative statements relating a problem to its possible cause
- To identify important information needed to solve a problem
- To generate possible alternative solutions
- To describe the application and likely consequences of alternative solutions and select a solution that presents the best course of action

2. Interpersonal skills

- To work effectively under different kinds of supervision
- To work without the need for close supervision

- To be on time for activities and appointments
- To work effectively when time and pressure are critical factors for success
- To see things from someone else's viewpoint
- To engage appropriately in social interactions
- To be responsible for the effects of one's own judgments and actions
- To plan, conduct, and complete activities at one's own initiative
- To speak with others in a relaxed, self-confident manner
- To initiate task-focused conversations with others

3. Group process skills

- To work cooperatively as a team member
- To work effectively with people of different personalities
- To explain persuasively the rationale underlying judgments and actions arrived at by a group
- To coordinate one's activities with others
- To instruct or direct someone in their performance of a specific task
- To assign others to carry out specific tasks
- To demonstrate how to perform a specific task
- To join in and draw others into task-focused conversations
- To plan, convene, lead, and manage meetings
- To lead a group to resolve disputes in the opinions or positions of its members in order to achieve a consensus
- To follow established procedures for group participation and decision making

4. Decision-making skills

- To estimate the potential likelihood of some event's occurrence and probable consequences

- To project resource requirements for alternative scenarios
- To determine the relevance and quality of available data and information
- To identify needed information and information that could be located or generated
- To delineate assumptions underlying various options
- To use appropriate processes in order to facilitate making a decision

5. Communication skills

- To choose appropriate words that convey accurate meanings in both writing and speaking
- To gather information or data from books, manuals, and other printed documents
- To read graphs, charts, and tables--as well as memos and forms--in order to obtain factual information
- To compose written directives, memos, and reports
- To speak fluently and effectively with both individuals and groups
- To restate or paraphrase a conversation to confirm one's understanding of what was said
- To ask appropriate questions to clarify another's written or oral communication
- To listen carefully and take accurate notes from spoken conversation

6. Planning skills

- To set priorities in which several tasks could be accomplished
- To set the goals or standards for accomplishing a specific task
- To enumerate a set of possible activities needed to accomplish a task
- To determine how specific activities will assist in accomplishing a task

- To select activities to accomplish a specific task
- To determine the step-by-step process by which a specific task may be accomplished
- To estimate the time required to accomplish a specific task
- To select materials and resources needed to perform a specific task
- To revise or update activities and plans periodically in order to accomplish a specific task

7. Reasoning skills

- To generate or conceive new ideas
- To use previously learned knowledge and skills in a new situation
- To explain the main idea in another's written or oral communication
- To recall ideas, facts, and information accurately
- To organize and express ideas rapidly in oral and written discourse
- To interpret ideas or facts in terms of one's personal viewpoint or values
- To state a position clearly and defend it
- To distinguish between fact and opinion in one's own and in others' written and oral communication
- To compile notes, ideas, and materials from several sources into a single report
- To observe--and ask questions about--another's performance in order to identify whether the performance is satisfactory or whether it needs improvement

8. Organization and management skills

- To understand and apply concepts of business economics
- To understand and apply concepts of business operation
- To understand and apply concepts of management
- To understand and apply concepts of statistical quality control

- To understand the quality of work life philosophy, as well as its rationale, history and development, concepts and approaches, and methods and techniques

9. Technical skills in agriculture

- Technical skills appropriate to career area and desired level of entry into career
- Analyze the effect of global interdependence on agricultural systems
- Competence in and knowledge of applied mathematics, communications, and scientific skills which are appropriate for career area
- Appropriately utilize technology

10. Safety concepts and emergency procedures

- Principles of equipment and tool operation
- Maintenance of equipment and a safe working environment
- Recognition of potential hazards (including human factors)

11. Career awareness/job-seeking skills

- Belief in and strong desire to work in a certain career or field or company
- Experience in the area in which one is seeking employment
- Track record of high work capacity
- Proven management experience for management positions
- Preparation for career mobility
- Realistic understanding of existing and future agricultural occupations and their requirements